AGRC E911 Annual Report (11/8/07)

INTRODUCTION

The third year of geospatial technical support for E911 implementation, funded by the State Legislature, has now been completed. The original legislation stated:
53-10-605. *(1) Subject to an annual legislative appropriation from the fund to:*
(c) the state's Automated Geographic Reference Center in the Division of Information Technology Services, an amount equal to 1 cent per month levied on telephone services under Section 69-2-5.6 shall be used to enhance and upgrade statewide digital mapping standards.

The goal has been to cooperatively develop and share the best (most accurate, current, and complete) information about the State's transportation/address infrastructure. It has been agreed formally through statute and in practice, that the State Geographic Information Database (SGID), managed by the Automated Geographic Reference Center (AGRC), is the central clearinghouse for standardized digital transportation data for local, state, federal and tribal agencies in Utah. AGRC, working with local, state, tribal and federal agency partners, is creating an accurate representation of transportation for the approximately 100,000 miles of roads in Utah.

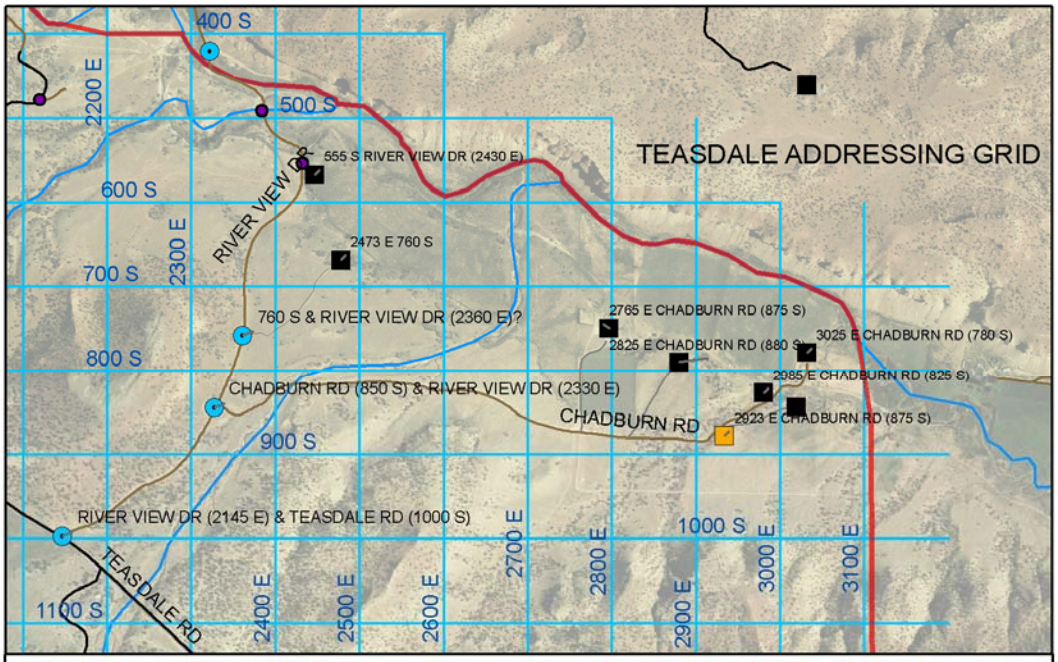
Based on discussions with the E911 Committee, the following activities have been conducted with the appropriated funds.

- GPS road centerline data collection
- Field verification on road centerlines to ensure correct & complete address calibration
- Inspection and quality assurance to ensure correct & complete address calibration
- Topology (connectivity and contiguity to define and enforce data integrity)
- Geocoding attribute Quality Control and problem reporting
- Address grid creation and assistance
- Assistance and design of linear referencing systems
- Assistance and development of road naming conventions and standards
- Structure address numbering assistance
- Assistance with road sign location and style for addressing for E911 purposes
- Master Street Address Guide (MSAG) generation
- Map creation for planning and public meetings
- Meetings between neighboring counties to reconcile road name differences
- Other necessary support that may be defined by the PSAP

APPROACH

AGRC's approach is multi-faceted and can be categorized into 9 distinct functions: 1 through 5 being the current priorities.

County and PSAP support. AGRC meets with county leaders including commissioners, sheriffs, emergency services, PSAP operators and dispatchers, road department, recorders, assessors, and surveyors and the GIS coordinators. Technical support is provided for centerline creation which includes location and digitizing of roads; developing and implementing road naming conventions, standards, and rules; determining and populating other road name aliases along with the creation of the MSAG; addressing and grid generation; identifying a center of origin and block size to suit the county; linear referencing systems; helping to determine signage locations, number of signs, and sign text.



Teasdale addressing grid: Blue circles are road signs, Black squares are homes. The bold Red line is the boundary between Teasdale and Torrey grid , it was adjusted to follow along the river, instead of along section lines, to beter serve the area.

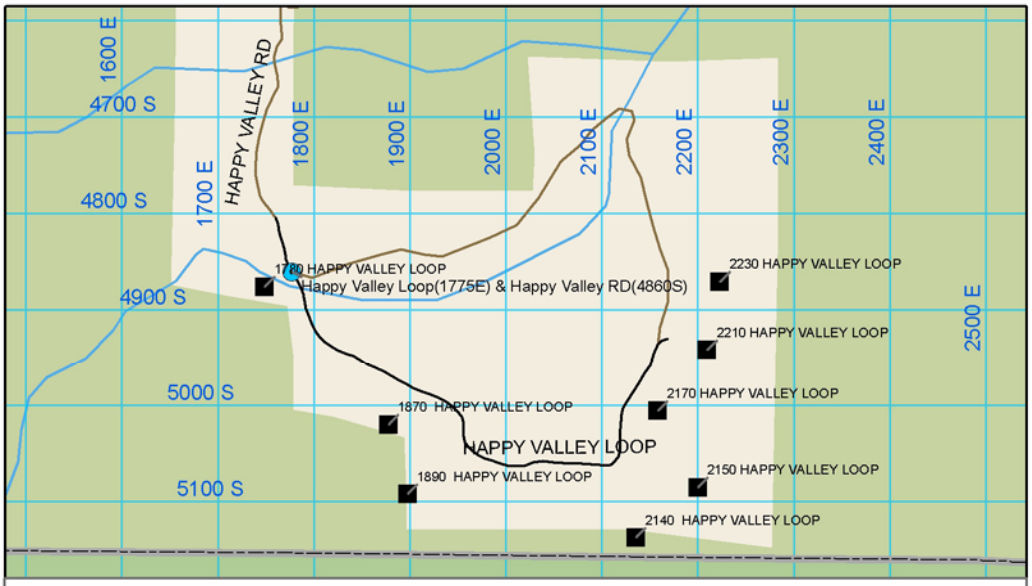
Example #1 shows an address grid system in a typical rural area. Multiple grid areas are defined per county to reflect current addressing schemes and other considerations that include place names, roads, phone prefix number areas, zip code boundaries, and local preferences.

Example of where the existing Road address are used and any new address are adjusted according to the new grid . Blue dots are signs, Black squares are homes. Blue lines and numbers are the addressing grid and values

Example #2 illustrates the address grid system, and sign location and text.

The Master Street Address Guide (MSAG) can be generated out of the geospatial database for formatting and migration into the ALI/ANI software used by the PSAP. (Partial example from Big Water grid illustrated below)

E,AMERICAN WAY,,950,1299,BIG WATER,9999
E,ARLINGTON DR,100 N,1,99,BIG WATER,9999
E,BALD EAGLE DR,,1020,1119,BIG WATER,9999
E,BRANDYWINE DR,200 N,1,99,BIG WATER,9999
E,CANNONBALL DR,,800,929,BIG WATER,9999
E,CONCORD BRIDGE DR,300 N,1,99,BIG WATER,9999
E,DRY POWDER DR,400 N,1,99,BIG WATER,9999
E,HAWKINS DR,500 N,1,99,BIG WATER,9999
E,INDEPENDENCE DR,,1300,1389,BIG WATER,9999
E,JUSTICE DR,,1258,1399,BIG WATER,9999
E,LEXINGTON DR,600 N,1,99,BIG WATER,9999
E,NONAME BIG WATER 2 RD,,1050,1149,BIG WATER,9999
E,NONAME BIG WATER 3 RD,,1100,1199,BIG WATER,9999
E,OLD GLORY DR,,860,1129,BIG WATER,9999



Example of Addressing on a Loop road, keeping the values increasing to the east. The Black part of the road is the established area, the Brown is not improved yet. Black squares are homes, Blue Circles are signs and the Blue lines and values are the grid.

Example #3 shows how a loop road in a typical rural area is addressed to take advantage of the newly developed grid system.

E911 Committee Support. AGRC also supports the E911 Committee by developing products including PSAP status map and cell phone provider coverage areas. AGRC also produces maps showing grant amounts for PSAPs and other products the committee requests.

Urban areas data. Initially, the focus has been to complete and provide quality control for centerlines/addresses in urban areas where most of the state's population is. This includes examples like Salt Lake County where AGRC integrates data from multiple sources including VECC, Salt Lake City, Sandy City and Salt Lake County to develop a comprehensive standardized data set. It also includes rural counties where AGRC is doing the field work for creation of GPS centerlines and calibration of address from field observation of signs and house numbers. This process often includes AGRC, the county, various cities, Blue Stakes, the Bureau of Census, Utah Department of Transportation, and the Division of Emergency Services.

Rural populated areas data. The next focus is the rural areas of the counties typified by farms, ranches and small subdivisions. These areas typically do not have addressing schemes or, have very sporadic and non-standardized addresses. AGRC is working with each county to develop a rural addressing scheme that makes sense for their geography (see examples above). We also work with neighboring counties to ensure connectivity for both road centerline and descriptive attributes are accurate and logical. AGRC is also engaged in an activity initiated by the Canyon Country Partnership to compare names and numbers of roads crossing county boundaries and solve discrepancies to limit issues for dispatchers.

Public lands data. The Canyon Country Partnership activity identified above is focusing on Class B roads many of which are on public lands. AGRC and CCP have worked with the BLM and Forest Service to solve these naming issues. The Federal Communications Commission (FCC) requires wireless communications providers Automatic Location Identification (ALI) functionality. Acquisition of road centerlines across public lands using GPS technology has been a several year effort. It is near completion, but developing addressing schemes for these roads was not done. Roads traveling outside of towns are only partially addressed. Roads traveling across public land typically have no address ranges but may have names in the GIS database. We are now working with individual counties and the public land management agencies to develop grid systems or linear reference systems for these areas. The Canyon Country Partnership is conducting a pilot project in Emery County to test one option for this endeavor. Similar activities are underway in several other counties.

Processes for long term maintenance. AGRC is working with each county, UDOT and federal agencies to determine best practices for each area to keep the data current. As more accurate data becomes available for a particular road segment or as new road segments are developed, a process must be in place to update the SGID, the PSAP data, and other databases requiring centerline / address information.

TIGER modernization. Data from all counties in Utah passed the Census Bureau's TIGER accuracy requirements this year. The Census Bureau initiated a process to increase the accuracy and currency of their TIGER database. TIGER is the data used for redistricting and many federal programs requiring classification by population or demographic characteristics. Their goal is to have the entire nation's transportation base GPSed by 2006. They intend to use state and local data where it exists. Census will include all road centerline data in TIGER when complete. Since some PSAPs use commercial centerline datasets derived from TIGER, it is in the State's best interest to make sure TIGER is as accurate as possible. Only Utah and Davis Counties have completed this process with all counties in Utah scheduled to by done by mid-2008.

Provide access to the data. The Utah State Legislature established the SGID in 1991 with the intent to serve as a repository and clearinghouse, and provide standards for data acquired in the State. All non-sensitive data in the SGID is publically accessible over the World Wide Web. Utah also coordinates with national activities including Geospatial One Stop (GOS) and the National Map (TNM). The GOS vision of the Federal Geographic Data Committee and the U.S. Office of Management and Budget is to "revolutionize e-government by providing a geographic component". This initiative will contribute to Utah's transportation data activities by developing and implementing data standards, maintain an inventory of data, publish metadata for planned data acquisition and update activities, prototype and deploy web mapping services, establish a federal portal to national data resources. The National Map, initiated by the US Geological Survey, will develop a national database for framework layers including transportation. This database will be the primary source for all federal agency geographic information needs. All transportation / address

data developed in support of E911 will be available through these state and national data portals.

Provide base data for Homeland Security: Geographic Information Systems and data are essential to Utah's Homeland Security initiative, serving as the framework for vulnerability assessment, preparedness planning, and response and recovery. The GIS Advisory Committee, working with the Department of Public Safety and the Office of the State's Chief Information Officer, is taking the lead on insuring the most accurate, current, and detailed data is available. This group will lead in identification of transportation vulnerabilities to intentional disruption. Utah has a number of areas where terrain limits the options for ground travel. Principal routes through the state abound with "choke points" vulnerable to anything from an avalanche or landslide, to the deliberate destruction of an overpass, bridge, or a toxic material spill. The use of GIS and current transportation data will help model alternate routes and other function necessary for E911 response.

This approach implemented through performing the activities identified in the Introduction section of this report have resulted in a tremendous amount of standardized data to support E911 needs in the state.

CURRENT STATUS

In this section, we will list overall activities, priorities and summarize the activities in each county.

Beaver County

Over the last few years, Beaver County and AGRC have collected GPS road centerlines throughout the county to support various projects. Kevin Whicker (County GIS) currently maintains the road centerline database. Beaver County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2003, AGRC collected GPS road centerlines throughout the county.
- In 2005, AGRC integrated the GPS and DLG/CFF (derived from USGS 1:24K topo maps) road centerlines to create one comprehensive dataset.
- AGRC populated address ranges, street names, prefix/suffix directions, and zip codes on the road centerlines within each town.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 (Circular Error of a 95% Confidence Level) of 3.87 meters.
- As of November 10, 2006, there were approximately 4781 total road miles and 58 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 4520 total road miles and 67 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Box Elder County
Over the last few years, Box Elder County and AGRC have collected GPS road centerlines throughout the county to support various projects. Chad Montgomery (County GIS) currently maintains the road centerline database. Box Elder County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2002, AGRC collected GPS road centerlines in urban areas and populated address ranges, street names, prefix/suffix directions, and zip codes.
- On December 21, 2005, AGRC met with Scott Wolford (Box Elder County DPS) to identify the county's needs to support E911 activities.
- In December 2005 and January 2006, AGRC collected GPS centerlines and field checked the address ranges, names, and prefix/suffix directions on roads that previously had no such information.
- In 2006, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 4.6 meters.
- As of November 10, 2006, there were approximately 6341 total road miles and 602 miles of addressed roads in AGRC's database.

2007 Highlights:

- On May 30, 2007, AGRC provided Scott Wolford (Box Elder County Department of Public Safety) with milepost marker data (from UDOT) to be used in the PSAP.
- As of November 8, 2007, there were approximately 6397 total road miles and 667 miles of addressed roads in AGRC's database.

Cache
Over the last few years, Cache County and Logan City personnel have digitized and collected GPS road centerlines throughout the county to support various projects. Larry Brunsen (County GIS) and Lyle Shakespear (Logan City GIS) currently maintain two separate road centerline datasets. Cache County and Logan City have not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2002, AGRC collected GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2002, AGRC conducted field observations to determine address ranges, road names, and prefix/suffix direction attributes on street centerlines traveling on the outskirts of towns.
- In December and January 2006, AGRC collected additional GPS centerlines and field checked the address ranges, names, and prefix/suffix directions on roads that previously had no such information.
- In December and January 2006, AGRC integrated all existing GPS data, data collected by the county, data digitized by the Logan City GIS Department, and the DLG/CFF data to create one comprehensive dataset.

- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.86 meters.
- As of November 10, 2006, there were approximately 3010 total road miles and 1285 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 2296 total road miles and 1282 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Carbon

Over the last few years, Carbon County has digitized and collected GPS road centerlines throughout the county to support various projects. Ben Clement (County GIS) currently maintains the road centerline database. Carbon County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the GPS, digitized, and DLG/CFF road centerlines to create one comprehensive dataset.
- In conjunction with the Canyon Country Partnership Transportation Committee, Carbon County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.48 meters.
- As of November 10, 2006, there were approximately 2671 total road miles and 76 miles of addressed roads.

2007 Highlights:

- As of November 8, 2007, there were approximately 2654 total road miles and 88 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Daggett

Over the last few years, Daggett County and AGRC have collected GPS road centerlines throughout the county to support various projects. Kym Slagowski (County GIS) currently maintains the road centerline database. Daggett County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In 2005, AGRC met with Lysa Asay (Daggett County Assessor) and Alan Campbell (Sheriff) to discuss their addressing needs. It was determined that AGRC would provide GIS technical support on a county-wide addressing project.

- In 2005, AGRC generated address grids for the entire county based on input from Daggett County officials. The address grids were used to calibrate address ranges on the road centerlines in the GIS database.
- In August 2006, AGRC completed Daggett County's addressing project. Within the GIS database, the road centerlines in each town and subdivision now have address ranges, street names, prefix/suffix directions, and zip codes.
- AGRC generated a MSAG (Master Street Address Guide) for the PSAP's ANI/ALI software.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.91 meters.
- As of November 10, 2006, there were approximately 805 total road miles and 108 miles of addressed roads in AGRC's database.

2007 Highlights:

- On August 8, 2007, AGRC provided Keri Pallesen (County Auditor/Recorder) GIS technical assistance on Daggett County's E911 grant proposal.
- As of November 8, 2007, there were approximately 801 total road miles and 148 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Davis

Dave Vance (County GIS) maintains a road centerline database for the entire county. Davis County populated address ranges, street names, prefix/suffix directions, and zip codes throughout the county. In addition, Kaysville, Centerville, Layton, and Farmington each maintain a GIS road centerline database for their jurisdiction. Davis County has not requested assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the county's data with the DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.14 meters.
- In November 2006, AGRC integrated the Davis County data with the Kaysville, Centerville, Layton, and Farmington centerline datasets to create one comprehensive database.
- As of November 10, 2006, there were approximately 1733 total road miles and 1081 miles of addressed roads in AGRC's database.

2007 Highlights:

- On November 1, 2006, the road centerline data for the cities of Kaysville, Centerville, Layton, and Farmington were implemented into AGRC's SDE (Spatial Database Engine). These cities have the capability to edit and maintain their own centerline data in one central location, thereby eliminating data redundancy.

- In January 2007, AGRC met with Kaysville, Centerville, Layton, and Farmington to coordinate and enable these cities to edit and maintain their road centerlines in the State Geographic Information Database (SGID).
- On April 11, 2007, AGRC met with Layton City officials Ed Frazier (IT Manager), Doug Pierce (GIS Administrator), Scott M. (EMS), and others to determine their GIS needs to support E911 activities. Layton City requested support from AGRC primarily because their GIS road centerline data had never been through quality control for errors and completeness.
- In April 2007, AGRC collected GPS point locations of fire hydrants in the South Weber area, in which Layton City responds. The hydrant locations were provided to the PSAP for emergency response purposes.
- In April and May 2007, AGRC field verified road names, address ranges, and collected GPS road centerlines in the South Weber area.
- As of November 8, 2007, there were approximately 1761 total road miles and 1221 miles of addressed roads in AGRC's database.

Duchesne

Over the last few years, Duchesne County and AGRC have digitized and collected GPS road centerlines throughout the county to support various projects. Stoney Monks (County GIS) maintains the road centerline database.

Accomplishments:

- In February 2006, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In February and March 2006, AGRC populated the address ranges, street names, prefix/suffix directions, and zip codes on the road centerlines within each town. The attributes for street centerlines on the outskirts of towns were populated by Stoney Monks.
- In conjunction with the Canyon Country Partnership Transportation Committee, Duchesne County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.93 meters.
- As of November 10, 2006, there were approximately 3782 total road miles and 643 miles of addressed roads in AGRC's database.

2007 Highlights:

- In April 2007, AGRC created a county-wide address grid in digital form by attributing the GCDB (Geographic Coordinate Data Base) township and section line data. Address grid increments were based on information provided by Stoney Monks.
- On August 6, 2007, AGRC began collecting GPS centerlines and point locations of homes in the Fruitland area. In areas with restricted access, point locations of homes and road centerlines were digitized from imagery.
- On November 2007, AGRC began address calibration in the Fruitland area. Approximately 700-1000 houses will either be addressed or readdressed. The end

product will improve geocoding results and provide a more accurate, current, and complete GIS database to support E911 activities.

- In August-October 2007, AGRC collected GPS road centerlines and point locations of buildings locations in the Fruitland area.
- On July 20, August 8, September 14, and October 19, AGRC met with Stoney Monks to review maps of GPS data collection to date.
- In October 2007, Stoney concluded that 90 percent of all useful roads in the Fruitland area had been GPS'd. The remaining 10 percent of roads were believed to be inaccessible due to private land restrictions, difficult terrain, or invisibility.
- In October 2007, Stoney recommended that AGRC finish mapping with the following tasks:
    - Make a final attempt to access some of the more important unlogged roads in the Fruitland area
    - Digitize road centerlines and buildings that were unreachable by GPS from the 2006 HRO (High Resolution Orthophotography) and 2006 NAIP (National Agricultural Imagery Program) imagery
    - Make final results available through FTP
- As of mid-November 2007, tasks 1 and 2 are complete with an estimated 95 percent of Fruitland area buildings and road centerlines collected in the GIS database.
- As of November 8, 2007, there were approximately 3991 total road miles and 836 miles of addressed roads in AGRC's database.

Emery

Over the last few years, Emery County and AGRC have collected GPS centerlines throughout the county to support various projects. Emery County digitized the majority of roads within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes. Jeff Guymon (County GIS) maintains the road centerline database. Emery County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In conjunction with the Canyon Country Partnership Transportation Committee, Emery County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE of 5.96.
- As of November 10, 2006, there were approximately 5363 total road miles and 1184 miles of addressed roads in AGRC's database

2007 Highlights:

- As of November 8, 2007, there were approximately 5460 total road miles and 1321 miles of addressed roads in AGRC's database.

Garfield
Over the last few years, Garfield County and AGRC have collected GPS centerlines throughout the county to support various projects. Cydne Quitter (County GIS) currently maintains the road centerline database.

Accomplishments:

- In 2002, AGRC collected the GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In February 2006, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.09 meters.
- As of November 10, 2006, there were approximately 5366 total road miles and 31 miles of addressed roads in AGRC's database.

2007 Highlights:

- On February 27, 2007, AGRC met with Garfield County to provide general GIS technical support and assistance with potential E911/addressing needs.
- On March 13 2007, AGRC met with Garfield County (Brian Bremner - Engineer/Roads, Cydne Quitter, and Les Barker - Recorder) to discuss and determine potential rural addressing needs. It was determined that AGRC will transfer the addressing information in the Recorder's tax assessment database into the GIS database to support E911 activities.
- In May 2007, AGRC calibrated address ranges into the GIS database for the Hatch area with the aid of plat maps and information provided in the tax assessment records database. Visible roads in the 2006 NAIP imagery that were either new or not previously GPS'd were digitized into the GIS database.
- On May 23-24, 2007, AGRC met with Les Barker to QA/QC the GIS database in the Hatch area. Some errors were found in the addressing that will require future work once Garfield County has a chance to look at them.
- In July 2007, Les Barker sent AGRC plat maps and tax assessment records for the Ticaboo and Boulder areas to begin work on identifying roads and address ranges.
- In June 2007, AGRC calibrated address ranges into the GIS database for the Ticaboo and Boulder areas with the aid of plat maps and information provided in the tax assessment records database. Visible roads in the 2006 NAIP imagery that were either new or not previously GPS'd were digitized into the centerline database.
- In September 2007, AGRC met with Les Barker to QA/QC the GIS database in the Boulder and Ticaboo areas. Some errors were found in the addressing that will require future work once Garfield County has a chance to look at them.
- In December 2007, AGRC will meet with Les Barker to finalize the GIS database in Cannonville and Henrieville areas.
- As of November 8, 2007, there were approximately 5362 total road miles and 116 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Grand

Over the last few years, Grand County and AGRC have collected GPS centerlines throughout the county to support various projects. Dave Vaughn (County GIS/Road Department) maintains the road centerline database. Grand County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2004, AGRC collected the GPS centerlines in the Moab area.
- In 2005, AGRC created an address grid for Castle Valley and populated the address ranges, street names, prefix/suffix directions, and zip codes. For streets traveling outside of the towns, such attributes have been partially populated.
- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In January and February 2006, AGRC collected additional GPS centerlines in the Moab area and field checked the address ranges, names, and prefix/suffix directions on roads that previously had no such information.
- In conjunction with the Canyon Country Partnership Transportation Committee, Grand County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.78 meters.
- As of November 10, 2006, there were approximately 7304 total road miles and 75 miles of addressed roads in AGRC's database.

2007 Highlights:

- On January 25, 2007, AGRC met with Dave Vaughn (Grand County Road Dept.), Corkey Brewer (Fire Department), Vicky Bower (Grand County Sheriff Office), and Contact One to determine Grand County's addressing needs to support E911 activities.
- On February 12-16, 2007, AGRC provided technical support and QA/QC assistance to Grand County to further improve their GIS database. Plat maps with parcel information were provided by the Recorder's office to assist with addressing the GIS database in the area south of Moab.
- On March 19-22, 2007, AGRC provided technical support and QA/QC assistance to Grand County to further improve their road centerlines for E911/addressing purposes. Plat maps with parcel information were provided by the Recorder's office to assist with addressing the GIS database in the area south of Moab.
- In April, 2007, AGRC created an automated program to assign mileage measurements (ie. address ranges) on Grand County's B road system in the GIS database. This will enable Grand County's PSAP to determine a 911 cell caller's location more accurately and efficiently in remote areas.
- On April 16-18, 2007, AGRC provided GIS technical support to Grand County by incorporating address information from the San Juan County Recorder's Office in the Pack Creek Ranch area and the Jack Bridger subdivision into the GIS database.

- On July 9, 2007, AGRC provided QA/QC support, data validation to the GIS database, and field verification to further improve geocoding match rates for E911 related activities.
- On July 17, 2007, AGRC provided QA/QC support:
    - Data validation in the GIS database
    - GPS and field verification to further improve geocoding match rates
- During the week of August 20, 2007, AGRC finished correcting all possible data validation errors in Grand County's GIS road centerline database. Some errors were found in the addressing that will require future work once Grand County has a chance to look at them.
- As of November 8, 2007, there were approximately 7096 total road miles and 139 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Iron

Over the last few years, Iron County and AGRC have collected GPS road centerlines throughout the county to support various projects. Jared Wilson (County GIS) currently maintains the road centerline database.

Accomplishments:

- In 2003, AGRC began collecting GPS road centerlines within each town and populated their address ranges, street names, prefix/suffix directions, and zip codes.
- In 2003, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In 2003, AGRC made field observations to determine address ranges, street names, and prefix/suffix directions on road centerlines traveling on the outskirts of towns.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.89 meters.
- As of November 10, 2006, there were approximately 5896 total road miles and 941 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 5994 total road miles and 1112 miles of addressed roads in AGRC's database.

Juab

Over the last few years, Juab County and AGRC have collected GPS roads centerlines throughout the county to support various projects. Glenn Greenhalgh (County GIS) currently maintains the road centerline database. Juab County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC collected the GPS road centerlines in each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.

- In March 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS database passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.04 meters.
- As of November 10, 2006, there were approximately 4705 total road miles and 64 miles of addressed roads in AGRC's database.

2007 Highlights:

- In September 2007, AGRC created an address grid and calibrated address ranges on the road centerlines in the Snake Valley area. GPS point locations of homes collected by Juab County were readdressed based on the new grid system. Several topology (road connectivity) errors were detected and corrected during this process.
- In September 2007, Juab County provided AGRC with a road centerline update of the Nephi area. AGRC integrated the updates into Juab County's GIS database.
- On October 29, 2007, AGRC generated a MSAG from the GIS database for the Snake Valley area and sent to Glenn Greenhalgh.
- As of November 8, 2007, there were approximately 4700 total road miles and 150 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Kane

Over the last few years, Kane County and AGRC have collected GPS road centerlines throughout the county to support various projects. Lou Pratt (County GIS) maintains the road centerline database.

- In 2003, AGRC collected GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2004, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In March and April 2006, AGRC collected additional GPS centerlines and field checked the address ranges, names, and prefix/suffix directions on roads that previously had no such information.
- The GIS database passed the US Census Bureau's TIGER Modernization Program with a CE95 of 4.45 meters.
- As of November 10, 2006, there were approximately 2947 total road miles and 120 miles of addressed roads in AGRC's database.

2007 Highlights:

- On September 7, 2006, AGRC met with Dave Owens (E911), Lou Pratt (County GIS/Road Department), VerJean Caruso (Recorder), and Mike Savage/Dennis Johnson (South Central Communications) to determine the county's E911 and addressing needs.
- On November 5, 2007, AGRC met with Dave Owens, Lou Pratt, Big Water Mayor, Big Water Assessor, and Charlene Gustaveson (Page, AZ PSAP) to

discuss the discrepancies between the MSAG and GIS database in the Big Water area. The GIS database does not match the current MSAG because the addresses in the Big Water area are now based off of one origin instead of the original four: Big Water, Church Wells, Clark Bench, and Big Water (south of the Glen Canyon Town).

- On November 6, 2007, AGRC met with Dave Owens, Lou Pratt, Barbara Hansen (Kane County Building Inspection), Big Water Assessor, and Charlene Gustaveson to discuss and inform residences in the Big Water area of the address changes to come. Some residences provided input for road name corrections.
- On November 7, 2007, AGRC generated a new MSAG of the Big Water area and sent to Dave Owens.
- As of November 8, 2007, there were approximately 4215 total road miles and 259 miles of addressed roads in AGRC's database.

Millard

Over the last few years, Millard County and AGRC have collected GPS road centerlines throughout the county to support various projects. Adam Britt (County GIS) currently maintains the road centerline database. Millard County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2004, AGRC collected the GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2004, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 7.53 meters.
- As of November 10, 2006, there were approximately 10017 total road miles and 264 miles of addressed roads in AGRC's database.

2007 Highlights:

- On November 2, 2007, AGRC made field observations to determine address ranges, street names, and prefix/suffix directions on road centerlines traveling on the outskirts of Fillmore.
- As of November 8, 2007, there were approximately 9680 total road miles and 307 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Morgan

In 2003 and 2004, AGRC collected the GPS road centerlines for all accessible roads in the county. David Manning (County GIS) currently maintains the road centerline database. Morgan County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2004, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In 2004, AGRC populated the address ranges, street names, prefix/suffix directions, and zip codes within each town.
- In 2005, AGRC made field observations to determine address ranges, street names, and prefix/suffix directions on road centerlines traveling on the outskirts of towns.
- In April 2006, AGRC created a county-wide address grid in digital form by attributing the GCDB (Geographic Coordinate Data Base) township and section line data. Address grid increments were based on information provided Austin Rowser (County GIS/Planning Department).
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 7.32 meters.
- As of November 10, 2006, there were approximately 1312 total road miles and 64 miles of addressed roads in AGRC's database.

2007 Highlights:

- On October 20, 2007, AGRC made field observations to determine address ranges, street names, and prefix/suffix directions on road centerlines in the Mountain Green area.
- As of November 8, 2007, there were approximately 1341 total road miles and 83 miles of addressed roads in AGRC's database.

Navajo Nation

The Navajo Nation encompasses approximately 27,000 square miles in New Mexico, Arizona, and Utah. The Navajo Nation Council Chambers hosts 88 Council delegates representing 110 Navajo Nation Chapters. The 'Navajo Nation Enhanced 9-1-1 Task Force' was established with representation from all the Navajo Nation Executive Branch Divisions and is working to coordinate the planning and implementation of a Navajo Nation-wide enhanced 9-1-1 system.

Accomplishments:

- In November and December 2005, AGRC coordinated with the Utah Navajo Trust in the collection of GPS point locations of each structure on the Navajo Reservation. The resulting GIS database is pertinent to the development of the Navajo Nation's E911 system.
- On January 10-11, 2006, AGRC attended the 'Navajo Nation Enhanced 9-1-1 Task Force Meeting' in Window Rock, AZ to provide GIS and addressing assistance in support of E911 activities.

2007 Highlights:

- On August 21-22, 2007, AGRC attended the 'Navajo Nation Enhanced 9-1-1 Task Force Meeting' in Window Rock, AZ to provide GIS and addressing assistance in support of E911 activities.
- As of November 8, 2007, there were approximately 1258 total road miles and 0.6 miles of addressed roads in AGRC's database.

- On November 16, 2007, AGRC met with the Utah Dineh Committee to discuss the GIS and addressing services that are available in support of E911 activities on the Utah portion of the Navajo Nation.

Piute

Over the last few years, Piute County and AGRC have collected GPS road centerlines throughout the county to support various project. Kendall Allen (County GIS) currently maintains the road centerline database.

Accomplishments:

- In 2003, AGRC collected the GPS centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2003, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.8 meters.
- As of November 10, 2006, there were approximately 1230 total road miles and 15 miles of addressed roads in AGRC's database.

2007 Highlights:

- On October 2, 2006, AGRC met with Commissioner Kay Blackwell and Dave Whittaker (County GIS) at Piute County's PSAP (located in Richfield) to determine the most efficient means for improving and maintaining Piute County's road centerline database.
- On March 13 2007, AGRC met with Piute County, Cynthia Nielson (Sevier County GIS), and Jeff Nielsen (Sevier County E911 Director) to discuss and determine their rural addressing needs to support E911 activities.
- On March 15, 2007, AGRC created a draft version of address grid areas based on discussions at the March 13th meeting. On March 20, the Piute County Commission accepted and approved the address grid areas.
- On March 30, 2007, AGRC configured the address grid line increments and their origins for each address grid area based on the discussion at the March 13th meeting. A draft version was sent to the County Commission for review.
- On April 10, 2007, the Piute County Commission approved the address grid line increments and their origins for each address grid area.
- On May 4, 2007, AGRC populated the GIS database with address ranges and prefix/suffix directions in the areas outside of each municipality.
- On June 14, 2007, AGRC met with Kendall Allen and Shane Millet (Treasurer/Recorder) to discuss addressing and road naming issues.
- On July 16-17, 2007, AGRC met with Kendall Allen and Cynthia Nielson (Sevier County GIS) to discuss addressing and road naming issues. Additional GPS road centerlines were collected on roads that were not previously in the GIS database.
- In August and September, 2007, AGRC provided Piute County with the following addressing and GIS support:
    - Field verification of roads, homes, structures
    - GPS data collection of roads and homes/structures
    - Digitized points from NAIP imagery to represent structures (homes)

    - With the help of county personnel, AGRC populated the digitized point data with an address, owner name, and parcel ID number
    - AGRC met with various residents and city mayors throughout the county to ensure the correct address number for corner houses was assigned
- In December 2007, AGRC will assist Piute County with informing each town mayor of address and road name changes due to the support of E911 activities.
- As of November 8, 2007, there were approximately 1251 total road miles and 30 miles of addressed roads in AGRC's database.
- As of November 11, 2007, AGRC is currently in the process of coordinating with Piute County officials and city mayors to assign road names on unnamed roads.

Rich

Over the last few years, Rich County and AGRC have collected GPS road centerlines throughout the county to support various projects. Debra Ames (Recorder/County GIS) maintains the road centerline database.

Accomplishments:

- In 2002 and 2003, AGRC collected GPS road centerlines in each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2002 and 2005, AGRC collected GPS road centerlines in subdivisions and populated the address ranges, street names, prefix/suffix directions, and zip codes based on plat maps provided by Debra Ames.
- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.58 meters.
- As of November 10, 2006, there were approximately 2484 total road miles and 92 miles of addressed roads in AGRC's database.

2007 Highlights:

- On June 11, 2007, AGRC provided Debra Ames GIS technical support and populated new subdivision roads in the GIS database with address ranges, road names, and prefix/suffix directions based on information provided from plat maps.
- On July 25-26, 2007, AGRC collected GPS road centerlines in new subdivisions and major highways. The address ranges, road names, and prefix/suffix directions were populated in the GIS database based on information provided from plat maps.
- In October 2007, AGRC compared the GIS database to Rich County's MSAG. The results were sent to Debra Ames for further input and resolution.
- On November 1-2, 2007, AGRC provided Debra Ames GIS technical support and populated the GIS database with address ranges, road names, and prefix/suffix directions based on information provided from plat maps. Additional road centerlines were digitized from the 2006 imagery and populated with addressing information based on information provided from plat maps. In addition, the discrepancies between the GIS database and MSAG were resolved.

- As of November 8, 2007, there were approximately 2179 total road miles and 376 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Salt Lake

The Salt Lake County Surveyor's office maintains a road centerline database for the entire county. Through a cooperative effort from participating cities within Salt Lake County, Valley Emergency Communications Center (VECC) maintains a road centerline database. Salt Lake City maintains a road centerline database for Salt Lake City proper. Salt Lake County, VECC, and Salt Lake City have not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In March 2006, AGRC integrated the most current version of the unincorporated road centerlines from Salt Lake County with that of VECC's to create one comprehensive dataset.
- In June 2006, the comprehensive dataset was implemented into AGRC's SDE for Salt Lake County to further improve and maintain.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 3.51 meters.
- As of November 10, 2006, there were approximately 4263 total road miles and 3942 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 4314 total road miles and 4038 miles of addressed roads in AGRC's database.

San Juan

Over the last few years, San Juan County and AGRC have collected GPS road centerlines throughout the county to support various projects. Dave Bronson (County GIS) currently maintains the road centerline database.

Accomplishments:

- The address ranges, street names, prefix/suffix directions, and zip codes have been populated extensively on streets within each town.
- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In conjunction with the Canyon Country Partnership Transportation Committee, San Juan County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- In November and December 2005, AGRC coordinated with the Utah Navajo Trust in the collection of GPS point locations of each structure on the Navajo Reservation. The resulting GIS database is pertinent to the development of the Navajo Nation's E911 system.

- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 7.38 meters.
- As of November 10, 2006, there were approximately 7967 total road miles and 55 miles of addressed roads in AGRC's database.

2007 Highlights:

- On December 18, 2006, AGRC provided GIS technical support to Contact One during their mapping software installation at the San Juan County's Sheriff Office.
- On March 10, 2007, Rick Bailey sent AGRC a document that outlines the approximate locations of San Juan County's Emergency Service Zones (ESZs). AGRC created a draft map of the boundaries in a GIS format that will eventually be used in the mapping software system. More detail is needed because portions of the ESZ boundaries were difficult to determine based on the provided information.
- In March and April 2007, AGRC obtained San Juan County's MSAG to help improve geocoding results in the GIS dataset. Additionally, AGRC was able to determine which roads, road names, and address ranges were missing from the GIS dataset.
- In March and April 2007, visible roads in the 2006 NAIP imagery that were either new or not previously GPS'd were digitized by AGRC into the GIS dataset.
- On April 17, 2007, AGRC met with Tammy Gallegos (San Juan County Administrator) to review the ESZ boundary map.
- On May 29, 2007, AGRC provided Rick Bailey (San Juan County Fire and Emergency Services) with milepost marker data (from UDOT) to be used in the PSAP.
- On June 12, 2007, AGRC met with Greg Adams (San Juan County Chief Deputy Assessor/Addressing) to discuss what is needed to develop the GIS database to support E911 activities. Greg provided AGRC a set of county B road maps to be used in road identification.
- In June 2007, AGRC compared the B road maps to the GIS database to narrow down the list of missing roads which will be sent to Greg Adams for him to locate.
- On June 22, 2007, AGRC sent a second draft map of San Juan County's ESZ's to Rick Bailey and Tammy Gallegos for further input. As of November 7, 2007, AGRC is waiting to receive the final changes to be made to the ESZ map.
- In September 2007, AGRC met with Greg Adams to obtain additional road name and addressing information.
- In October 2007, AGRC populated San Juan County's B roads with a mileage measurement (ie. address range) within the GIS database. This will enable San Juan County's PSAP to determine a 911 cell caller's location more accurately and efficiently in remote areas.
- In late October 2007, AGRC met with Greg Adams and Greg Martin of Monticello to provide addressing and GIS support:
    - Discussed roads on or near the munincipal boundary that will be addressed off the Blanding grid (vs. county grid)
    - Updated the GIS database with new road name changes

- In late October 2007, AGRC met with Greg Adams and Terry Ekker of Blanding to provide addressing and GIS support:
    - Populated unnamed roads and unidentified roads in the GIS database
    - Blanding has many private roads with several residences that need to be addressed and named
- In late October 2007, AGRC and Greg Adams met with Lyle Phillips of the White Mesa Reservation to discuss addressing issues. Lyle requested that AGRC and San Juan County provide the White Mesa Reservation with addressing assistance where necessary.
- In December 2007, AGRC anticipates coordination with Lyle Phillips to proceed with rural addressing assistance on the White Mesa Reservation.
- As of November 8, 2007, there were approximately 8293 total road miles and 72 miles of addressed roads in AGRC's database.

Sanpete

Over the last few years, Sanpete County and AGRC have collected GPS centerlines throughout the county to support various projects. Reed Hatch (/Recorder/County GIS) currently maintains the road centerline database. Sanpete County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2003 & 2004, AGRC collected GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2004, AGRC collected GPS road centerlines within several subdivisions. The address ranges, street names, and prefix/suffix directions were populated based on field observations.
- In 2004, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In 2005, AGRC made field observations to determine address ranges, street names, and prefix/suffix directions for roads on the outskirt of each town.
- In February, May, and August 2006, AGRC collected additional GPS centerlines and field checked the address ranges, names, and prefix/suffix directions on roads that previously had no such information.
- In conjunction with the Canyon Country Partnership Transportation Committee, Sanpete County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.77 meters.
- As of November 10, 2006, there were approximately 3793 total road miles and 382 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 3289 total road miles and 443 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Sevier
Over the last few years, Sevier County and AGRC have collected GPS road centerlines throughout the county to support various projects. Cynthia Nielsen (County GIS) currently maintains the road centerline database.

Accomplishments:

- In 2004, AGRC collected the GPS road centerlines within each town.
- In 2004, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In 2005, AGRC populated the address ranges, street names, prefix/suffix directions, and zip codes within each town.
- In conjunction with the Canyon Country Partnership Transportation Committee, Sevier County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.48 meters.
- As of November 10, 2006, there were approximately 4090 total road miles and 84 miles of addressed roads in AGRC's database.

2007 Highlights:

- On October 2, 2006, AGRC met with Cynthia Nielsen, Nathan Curtis (Sheriff), Jeff Nelson (Sevier County E911 Director), Ted Taylor (Wayne County Road Dept.), Piute County Commissioner Kay Blackwell, and Dave Whittaker (Piute County GIS) to discuss the best approach for improving and maintaining the GIS road centerline database for the PSAP.
- On February 26, 2007, AGRC met with Sevier County to provide GIS technical assistance with E911/addressing and other general needs.
- On March 13 2007, AGRC met with Piute County, Cynthia Nielson, and Jeff Nielsen to discuss and determine Piute County's rural addressing issues and needs.
- On May 21, 2007, AGRC provided the Sevier County PSAP with milepost marker data (from UDOT) to be used in the PSAP.
- In June and July 2007, AGRC converted Sevier County's address grid from an AutoCAD format into a GIS format. AGRC populated the address grid coordinates, planarized the database, and attributed the address ranges between each grid coordinate (324,261 features) in the populated areas.
- From September 2007 until present, AGRC has been providing Sevier County GIS and addressing assistance to support E911 activities:
    - Field verification of roads, homes, structures
    - GPS data collection of roads and homes/structures
    - Digitizing points from NAIP imagery to represent structures (homes)
    - Digitizing road centerlines from NAIP imagery
    - With the help of county personnel, AGRC has been populating the digitized point data with an address, owner name, and parcel ID number

- As of November 8, 2007, there were approximately 3312 total road miles and 120 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Summit

Over the last few years, Summit County has digitized and collected GPS road centerlines throughout the county to support various projects. Summit County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip codes. Jeff Ward (County GIS) currently maintains the road centerline database. Summit County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the county's data with the DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 4.63 meters.
- As of November 10, 2006, there were approximately 3362 total road miles and 644 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 3337 total road miles and 1024 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Tooele

Over the last few years, Tooele County has collected GPS road centerlines throughout the county to support various projects. Tooele County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip codes. Ed Hom (County GIS) currently maintains the road centerline database. Tooele County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2004, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In May 2006, based on county plat maps, AGRC collected GPS road centerlines and populated the address ranges, street names, prefix/suffix directions in the Stansbury Park area.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 4.51 meters.
- As of November 10, 2006, there were approximately 7968 total road miles and 280 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 7799 total road miles and 317 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

UDOT Traffic Operations Center (UTOC)

- On April 30, 2007, AGRC attended a MapStar (E911 PSAP Software) training class to become more familiar with how GIS data needs to be structured and how it is utilized in the PSAP.
- On May 2, 2007, AGRC sent the UTOC street centerline data and several other data layers in Salt Lake and Utah Counties to be used in the PSAP.
- On May 18, 2007, AGRC provided the UTOC with milepost marker data (from UDOT) to be used in the PSAP.
- On August 2, 2007, AGRC presented at the Utah DPS Communication's Bureau Managers' and Supervisors' Meeting:
    - Provided an overall synopsis of what services AGRC has been providing to local PSAPs and county governments
    - Discussed data availability in the SGID
    - Demonstrated how data in the SGID can be utilized for emergency response, disaster preparedness, and other applications pertinent to E911

Uintah

Over the last few years, Uintah County and AGRC have collected GPS road centerlines throughout the county to support various projects. Uintah County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip codes. Jordan Merrill (County GIS) currently maintains the road centerline database. Uintah County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In conjunction with the Canyon Country Partnership Transportation Committee, Uintah County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 3.07 meters.
- As of November 10, 2006, there were approximately 7253 total road miles and 572 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 7254 total road miles and 634 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Uintah-Ouray Reservation

2007 Highlights:

- On November 9, 2006, AGRC met with Barry Jensen (Executive Director of Uintah & Ouray Indian Reservation) to discuss their E911 and addressing needs. AGRC will coordinate with the Reservation in the collection of GPS road centerlines and address calibration.
- On December 8, 2006, AGRC met with Barry Jensen to further discuss their addressing needs to support E911 activities.
- On April 5, 2007, AGRC met with Barry Jensen to determine the best strategy for collecting point locations of houses, buildings, and other structures. It was decided that Felicia Gates (GIS Coordinator, Energy/Minerals Department) will focus on collecting point locations and the AGRC will assist with the GPS centerline data collection. Based on the point locations and centerline data, AGRC will be able to calibrate address ranges from Uintah and Duchesne Counties' address grids.
- In May 2007, AGRC met with Felicia Gates, Valentino James, and Travis Chimburas to determine the high priority areas where most of the GPS data collection should be completed.
- On May 28th, 2007, AGRC began collecting GPS road centerlines and point locations of structures and homes throughout the Uinta-Ouray Reservation. The primary focus of data collection was in populated areas.
- On July 26, 2007, AGRC met with the Uinta-Ouray Tribe to determine if there is additional GPS data collection needed. Valentino James determined that the Tribal community areas have been sufficiently GPS'd but will eventually want to have more oilfield roads collected.
- In June and July, 2007, AGRC provided the Uinta-Ouray Tribe with GIS and addressing assistance to support E911 activities:
    - Collected GPS road centerlines on and adjacent to tribal lands in Duchesne and Uintah counties
    - Road centerline data was digitized from aerial photographs for a substantial number of oilfield roads on tribal land south of Highway 40
- In August 2007, AGRC calibrated the address ranges on road centerlines within the Uinta-Ouray Tribal Lands. In addition, the GPS and digitized point locations of homes and structures were assigned an address based off the road centerline calibration.
- On September 7, 2007, AGRC met with Barry Jensen to determine if additional GPS data collection is necessary.
- On September 11, 2007, AGRC sent Barry Jensen a status map of the road centerline status on the Uinta-Ouray Tribal Lands to date. Barry will assess the status map in a meeting with the EMS, Transportation, and GIS Departments to determine whether or not additional GPS data collection is necessary.

Utah

Over the last few years, Utah County has digitized and collected GPS road centerlines throughout the county to support various projects. Utah County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip

codes. Patrick Waro (County GIS) currently maintains the road centerline database. Utah County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the county's data with the DLG/CFF road centerlines to create one comprehensive dataset.
- In conjunction with the Canyon Country Partnership Transportation Committee, Utah County has coordinated with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.02 meters.
- As of November 10, 2006, there were approximately 3512 total road miles and 2470 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 3514 total road miles and 2841 miles of addressed roads in AGRC's database.

Wasatch

Over the last few years, Wasatch County has digitized and collected GPS road centerlines throughout the county to support various projects. Wasatch County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip codes. Ivan Spencer (County GIS) currently maintains the road centerline database. Wasatch County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2004, AGRC integrated the county's data with the DLG/CFF road centerlines to create one comprehensive dataset.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.51 meters.
- As of November 10, 2006, there were approximately 2339 total road miles and 462 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 2336 total road miles and 494 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Washington

Over the last few years, Washington County and AGRC have digitized and collected GPS road centerlines throughout the county to support various projects. Washington County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip codes. Nancy Lucchetti (County GIS) currently

maintains the road centerline database. Washington County has requested GIS assistance from AGRC to support E911 activities.

Accomplishments:

- In 2005, AGRC integrated the county's data with the DLG/CFF road centerlines to create one comprehensive dataset.
- In February and March 2006, AGRC collected GPS road centerlines in the towns of Hilldale and Apple Valley and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 6.31 meters.
- As of November 10, 2006, there were approximately 3933 total road miles and 815 miles of addressed roads in AGRC's database.

2007 Highlights:

- On July 26, 2007, AGRC provided GIS and addressing coordination to support E911 activities at the ACE (Address Coordination for Emergency Response) meeting held in St. George, UT.
- As of November 8, 2007, there were approximately 3868 total road miles and 924 miles of addressed road in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Wayne

Over the last few years, Wayne County and AGRC have collected GPS centerlines throughout the county to support various projects. Brandon (County GIS) currently maintains the road centerline database.

Accomplishments:

- In 2002, AGRC collected the GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, and zip codes.
- In 2005, AGRC integrated the GPS and DLG/CFF road centerlines to create one comprehensive dataset.
- In conjunction with the Canyon Country Partnership Transportation Committee, Washington County is coordinating with neighboring counties to develop common road names and numbers for roads that cross multiple county boundaries and/or jurisdictions.
- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.08 meters.
- As of November 10, 2006, there were approximately 2249 total road miles and 115 miles of addressed roads.

2007 Highlights:

- The MSAG for Cainville and Notom was completed and submitted to Wayne County's PSAP in July 2006.
- On February 22-23, 2007, AGRC met with Wayne County to provide technical assistance on address related issues.

- On March 6, 2007, AGRC met with Wayne County to provide technical assistance on address related issues and road signage.
- On March 13, 2007, AGRC met with Colleen Brinkerhoff (Recorder), Ted Taylor (Road Dept), Wanda (GIS Technician), and Cynthia Nielson (Sevier County GIS) to discuss the following addressing related issues:
    - Sign lettering and placement
    - How to address homes that are off a road more than half a grid increment
    - How to address homes that are on a curved road
- On May 1-2, 2007, AGRC met with Colleen Brinkerhoff, Ted Taylor, Wanda, and Cynthia Nielson to discuss the following addressing related issues:
    - What is necessary to finalize the addressing in Hanksville, Caineville, and Notom areas
    - These processes include making sure all major building points in GIS database have an address and owner name
- On May 10-11, 2007, AGRC met with Colleen Brinkerhoff, Wanda, and Cynthia Nielson to discuss the following addressing related issues:
    - What is necessary to finalize the addressing in the Star Ranch area (South section of Notom Grid that is in Garfield Co. but serviced out of Hanksville) and Grover
    - Started working on addressing the Teasdale area
    - These processes include making sure all major building points in GIS database have an address and owner name
- On June 14-15, 2007, AGRC met with Cynthia Nielson to go over issues with road names in Wayne County and some problems with the roads in the GIS database for the five-county area.
- On July 19, 2007, AGRC met with Cynthia Nielson to finalize road names in Wayne County and update additional structure addresses in the GIS database.
- On August 9, 2007, AGRC met with Wayne County to finalize addressing and road naming issues.
- On August 30, 2007, AGRC sent Wayne County's road centerline and point data to Cynthia Nielson (Sevier County GIS) to be tested by the PSAP.
- As of November 8, 2007, there were approximately 2448 total road miles and 390 miles of addressed roads in AGRC's database.
- As part of quality control, the total number of road miles decreased from 2006 to 2007 due to the removal of DLG/CFF data from the database.

Weber

Over the last few years, Weber County has digitized and collected GPS road centerlines throughout the county to support various projects. Weber County populated the urban areas and subdivisions with address ranges, street names, prefix/suffix directions, and zip codes. Jim Quarles (County GIS) currently maintains the road centerline database. Weber County has not requested additional assistance from AGRC to support E911 activities.

Accomplishments:

- In 2004, AGRC integrated the county's data with the DLG/CFF road centerlines to create one comprehensive dataset.

- The GIS dataset passed the US Census Bureau's TIGER Modernization Program with a CE95 of 5.8 meters.
- As of November 10, 2006, there were approximately 2003 total road miles and 1298 miles of addressed roads in AGRC's database.

2007 Highlights:

- As of November 8, 2007, there were approximately 2013 total road miles and 1331 miles of addressed roads in AGRC's database.

AGRC E911 Summary as of November 8, 2007

Services Provided by AGRC in Support of County/PSAP Requests	1. GPS road centerline data collection	2. Field verification & quality assurance on road centerlines to ensure correct & complete address calibration	4. Topology (connectivity and contiguity to define and enforce data integrity)	5. Geocoding attributes, quality control and problem reporting	6. Address grid creation and assistance	7. Assistance and design of linear referencing systems	8. Assistance and development of road naming conventions and standards	9. Structure address numbering assistance	10. Assistance with road sign location and style for addressing for E911 purposes	11. Master Street Address Guide (MSAG) generation or assistance	12. Map creation for planning and public meetings	13. Meetings between neighboring counties to reconcile road name differences	
Beaver	X	X	X								X		
Box Elder	X	X	X								X		
Cache	X	X	X	X									
Carbon			X								X	X	
Daggett	X	X	X	X	X		X		X	X	X	X	
Davis	X		X										
Duchesne	X	X	X		X			X			X	X	
Emery	X		X								X	X	
Garfield	X	X	X	X	X						X	X	
Grand	X	X	X	X	X	X					X	X	
Iron	X	X	X	X							X	X	
Juab	X	X	X	X	X					X			
Kane	X	X	X	X	X		X			X	X	X	
Millard	X	X	X	X							X	X	
Morgan	X	X	X	X	X								
Navajo Nation	X		X					X			X		
Piute	X	X	X	X	X		X	X	X		X	X	
Rich	X	X	X	X							X		
Salt Lake	X	X	X								X		
San Juan	X	X	X	X		X	X	X		X	X	X	
Sanpete	X	X	X	X	X						X	X	
Sevier	X	X	X	X	X		X	X			X	X	
Summit		X	X								X		
Tooele	X	X	X										
Uintah	X	X	X	X				X			X	X	
Uintah-Ouray Tribe	X	X	X	X	X			X			X		
Utah			X								X	X	
Wasatch			X								X	X	
Washington	X		X	X	X						X	X	
Wayne	X	X	X	X	X		X	X	X	X	X	X	
Weber	X		X										